

Description

The HL1323DM is a 1.3 μm band InGaAsP laser diode with a double heterostructure. It is suitable as a light source for optical fiber communication systems, such as LAN, CATV, and LTN.

Features

- Long wavelength output: $\lambda_p = 1260$ to 1340 nm
- 0.3 mW CW operation at room temperature
- Fast pulse response: $t_r, t_f \leq 0.5$ ns
- Built-in monitor photodiode
- Miniature, thinner package

Fiber Specifications

Mode field diameter: 10.0 ± 1.0 μm
 Cutoff wavelength: 1.10 to 1.20 μm
 Core diameter: 10 μm
 External diameter: 125 μm
 Jacket diameter: 900 μm
 Fiber length: More than 500 mm

Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$)

Item	Symbol	Rated Value	Unit
Optical output power	P_O	0.3	mW
LD reverse voltage	V_R (LD)	2	V
PD reverse voltage	V_R (PD)	15	V
PD forward current	I_F (PD)	1	mA
Operating temperature	T_{opr}	0 to +65	$^\circ\text{C}$
Storage temperature	T_{stg}	-20 to +70	$^\circ\text{C}$

Optical and Electrical Characteristics ($T_C = 25^\circ\text{C}$)

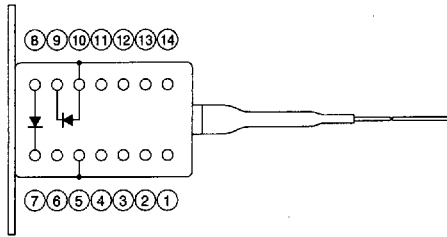
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	I_{th}	—	30	50	mA	
Fiber optical output power	P_f	300	—	—	μW	Kink free $I_F = I_{th} + 20$ mA
Lasing wavelength	λ_p	1260	1300	1340	nm	$P_f = 150$ μW, CW
Spectral width	$\Delta\lambda$	—	2	—	nm	$P_f = 150$ μW, CW
Photodiode dark current	I_{DARK}	—	—	350	nA	V_R (PD) = 5 V
Monitor current	I_S	100	—	—	μA	V_R (PD) = 5 V, $P_f = 150$ μW
PD capacitance	C_t	—	10	20	pF	V_R (PD) = 5V, $f = 1$ MHz
Rise time	t_r	—	—	0.5	ns	$P_f = 150$ μW, $I_{bias} = I_{th}$, 10 to 90 %
Fall time	t_f	—	—	0.5	ns	$P_f = 150$ μW, $I_{bias} = I_{th}$, 10 to 90 %



HL1323DM

Pin Arrangement (Bottom View)

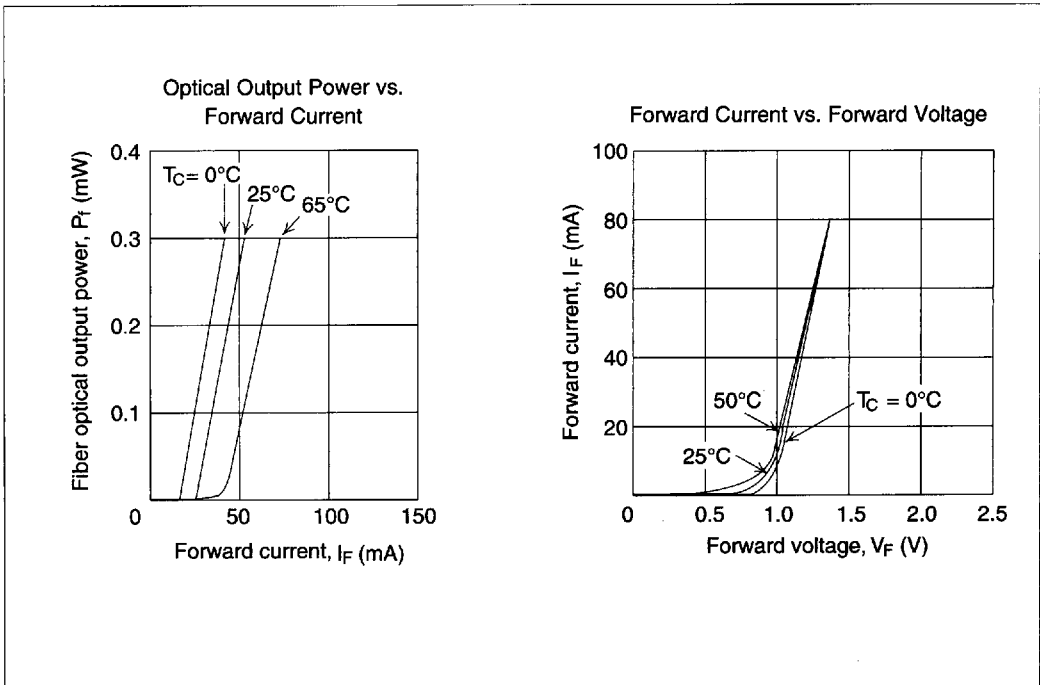
- HL1323DM



- ① N. C.
- ② N. C.
- ③ N. C.
- ④ N. C.
- ⑤ Case
- ⑥ N. C.
- ⑦ PD cathode
- ⑧ PD anode
- ⑨ LD cathode
- ⑩ LD anode (case)
- ⑪ N. C.
- ⑫ N. C.
- ⑬ N. C.
- ⑭ N. C.

Package Type
 • HL1323DM: DM

Typical Characteristic Curves



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Part

220

1

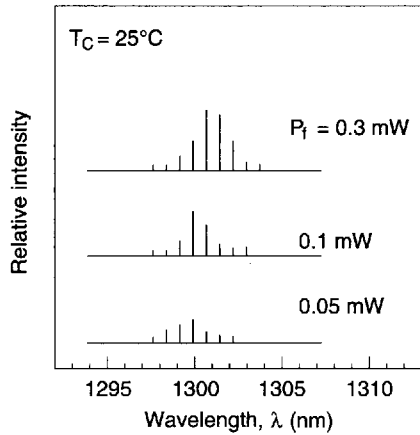
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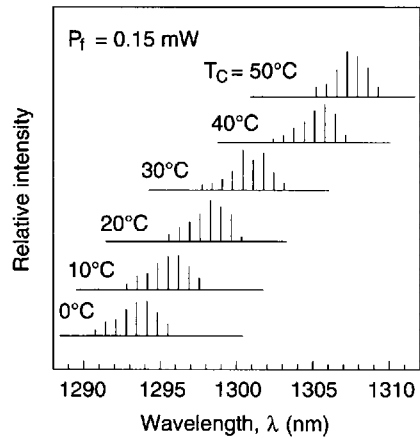
Typical Characteristic Curves (cont.)



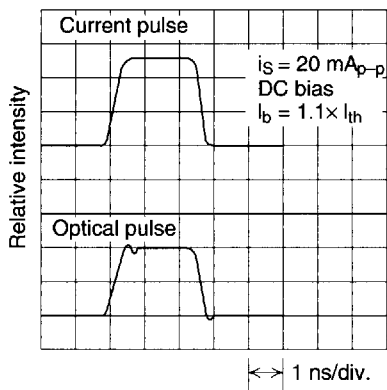
Lasing Spectrum



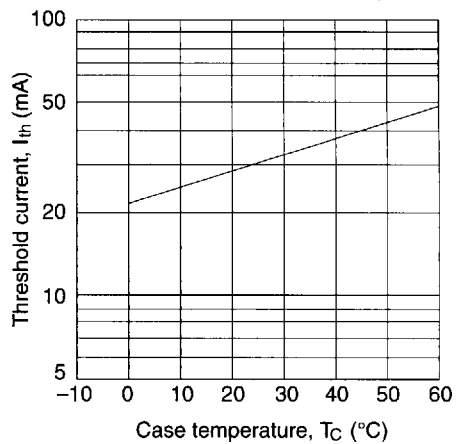
Lasing Spectrum Temperature Dependence



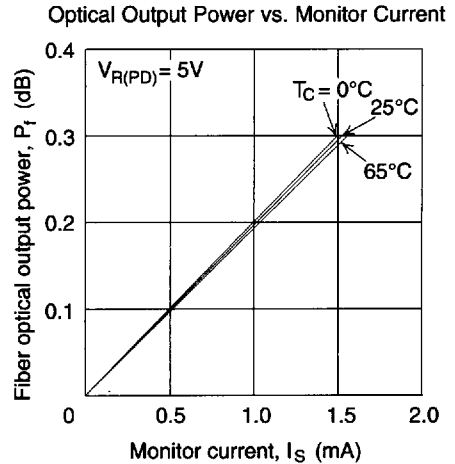
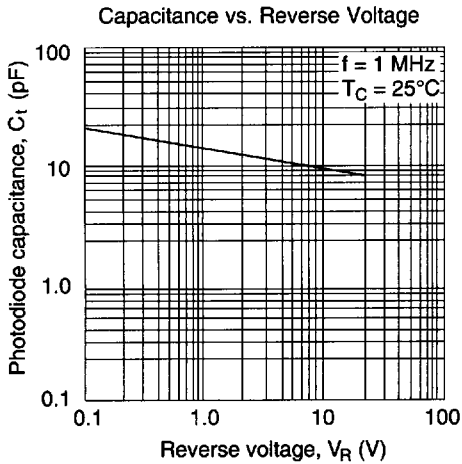
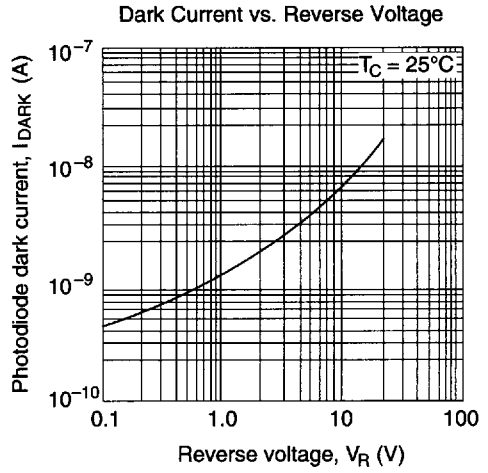
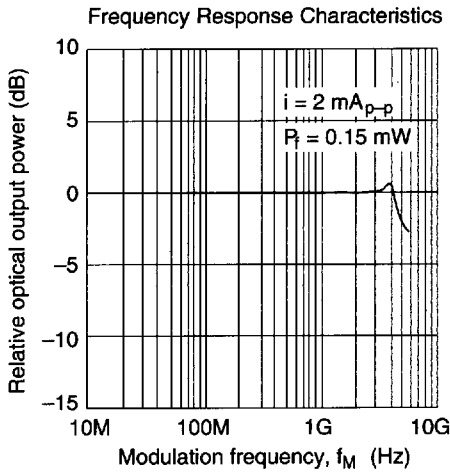
Pulse Response Characteristics



Threshold Current vs. Case Temperature



Typical Characteristic Curves (cont.)



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Part

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